DISCRETE APPLIED MATHEMATICS Volume 71, Numbers 1–3, 5 December 1996

Special Volume

Computational Molecular Biology

Abstracted/Indexed in: ACM Computing Reviews, Cambridge Scientific Abstracts, Current Contents: Physical, Chemical & Earth Sciences, Engineering Index/Compendex, INSPEC Information Services, International Abstracts in Operations Research, Mathematical Reviews, PASCAL, Science Citation Index, Statistical Theory and Method Abstracts, Zentralblatt für Mathematik.

Contents

| Introduction | 1 |
|--|-----|
| N. Akkiraju and H. Edelsbrunner Triangulating the surface of a molecule | 5 |
| J.E. Atkins and M. Middendorf On Physical Mapping and the consecutive ones property for sparse matrices | 23 |
| V. Bafna, B. Narayanan and R. Ravi Nonoverlapping local alignments (weighted independent sets of axis-parallel rectangles) | 41 |
| H.L. Bodlaender and B. de Fluiter On intervalizing k-colored graphs for DNA physical mapping | 55 |
| D. Boneh, C. Dunworth, R.J. Lipton and J. Sgall On the computational power of DNA | 79 |
| A. Dress, D. Huson and V. Moulton Analyzing and visualizing sequence and distance data using SPLITSTREE | 98 |
| L.A. Goldberg, P.W. Goldberg, C.A. Phillips, E. Sweedyk and T. Warnow Minimizing phylogenetic number to find good evolutionary trees | 111 |
| S. Hannenhalli Polynomial-time algorithm for computing translocation distance between genomes | 137 |
| J. Hein, T. Jiang, L. Wang and K. Zhang On the complexity of comparing evolutionary trees | 153 |
| D. Kandel, Y. Matias, R. Unger and P. Winkler Shuffling biological sequences | 17 |
| $J.M-G.$ Smith and $B.$ Toppur Euclidean Steiner minimal trees, minimum energy configurations, and the embedding problem of weighted graphs in E^3 | 18 |

DISCRETE APPLIED MATHEMATICS Volume 71, Numbers 1–3, 5 December 1996

Special Volume

Computational Molecular Biology

Abstracted/Indexed in: ACM Computing Reviews, Cambridge Scientific Abstracts, Current Contents: Physical, Chemical & Earth Sciences, Engineering Index/Compendex, INSPEC Information Services, International Abstracts in Operations Research, Mathematical Reviews, PASCAL, Science Citation Index, Statistical Theory and Method Abstracts, Zentralblatt für Mathematik.

Contents

| Introduction | 1 |
|--|-----|
| N. Akkiraju and H. Edelsbrunner Triangulating the surface of a molecule | 5 |
| J.E. Atkins and M. Middendorf On Physical Mapping and the consecutive ones property for sparse matrices | 23 |
| V. Bafna, B. Narayanan and R. Ravi Nonoverlapping local alignments (weighted independent sets of axis-parallel rectangles) | 41 |
| H.L. Bodlaender and B. de Fluiter On intervalizing k-colored graphs for DNA physical mapping | 55 |
| D. Boneh, C. Dunworth, R.J. Lipton and J. Sgall On the computational power of DNA | 79 |
| A. Dress, D. Huson and V. Moulton Analyzing and visualizing sequence and distance data using SPLITSTREE | 98 |
| L.A. Goldberg, P.W. Goldberg, C.A. Phillips, E. Sweedyk and T. Warnow Minimizing phylogenetic number to find good evolutionary trees | 111 |
| S. Hannenhalli Polynomial-time algorithm for computing translocation distance between genomes | 137 |
| J. Hein, T. Jiang, L. Wang and K. Zhang On the complexity of comparing evolutionary trees | 153 |
| D. Kandel, Y. Matias, R. Unger and P. Winkler Shuffling biological sequences | 17 |
| $J.M-G.$ Smith and $B.$ Toppur Euclidean Steiner minimal trees, minimum energy configurations, and the embedding problem of weighted graphs in E^3 | 18 |

| M. Paterson and T. Przytycka On the complexity of string folding | 217 |
|--|-----|
| W.R. Pearson, G. Robins, D.E. Wrege and T. Zhang On the primer selection problem in polymerase chain reaction experiments | 231 |
| D. Sankoff and J.H. Nadeau Conserved synteny as a measure of genomic distance | 247 |
| T.D. Schneider and D.N. Mastronarde Fast multiple alignment of ungapped DNA sequences using information theory and a relaxation method | 259 |
| T. Chen and S.S. Skiena Sorting with fixed-length reversals | 269 |
| M. Vingron and M.S. Waterman Alignment networks and electrical networks | 297 |
| C. Phillips and T.J. Warnow The asymmetric median tree — A new model for building consensus trees | 311 |
| Z. Zhang, B. He and W. Miller Local multiple alignment via subgraph enumeration | 337 |
| Author Index | 367 |